

Work Order ID 66829

Monday, February 28, 2011 11:40:00 AM



Page 1

Item ID: D3183-043

Accept



Setup Start



Revision ID:

Item Name: Bracket Assembly

Stop



Start Date: 2/28/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 3/4/2011 Req'd Qty: 4.00



Customer:

Reference:

Approvals: Process Plan:



Date: 11-02-28 Tooling:

Date:

Run Start



QC:

Date: SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3183

Rev C1

100



BAND SAW

Bandsaw

Memo

Jeaspa Bandsaw

Cut blanks: (1.500" x 2.250") 5.500" long

110



HAAS CNC VERTICAL MACHINING #1

HAAS I

Memo

HAAS CNC vertical machine #1

1-Machine D3183-3 as per Folio FA322 and Dwg D3183 Identify as D3183-
3 2-Deburr 3-Scribe batch number

120



QC2- Inspect parts off machine FAI/FAIB

QC

Quality Control

Memo

0.00

mk 11/03/10

4 8

mk 11/03/15

4 8

PTO

mk 11/03/15

4 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3183-043 PAR #: Fault Category: Machinery NCR: Yes No DQA: Date: 11/03/16
 Resolution: Scrap Disposition: Scrap QA: N/C Closed: Date: 11/4/17

NCR: 66829		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
11/03/11	110	1 part scrap, part pop out of the jig, try to re-run part but the floors are not straight.	11/03/11	scrap and destroy replen Qty: 1 Batch # M115806	OK 11/03/15	11/03/16	11/03/16	11/03/16
		R.C. poor tooling						

NOTE: Date & initial all entries

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Page 2

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Item Name: Bracket Assembly

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Start Date: 2/28/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 3/4/2011 Req'd Qty: 4.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

130



QC

Quality Control

Operation
Description

QC8- Inspect parts - second check

Set Up/
Run Hours

0.00

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

SL 1103/16

(A)

140



Small Fab

Small Fab

Small Fab

0.00

SB 1104/16

(4)

150



QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

S. Wadlow

(A)

0.00

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Work Order ID 66829

Page 3

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Item ID: D3183-043

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Setup Start



Revision ID:

Item Name: Bracket Assembly

Stop



Start Date: 2/28/2011 Start Qty: 4.00



Cust Item ID:

Required Date: 3/4/2011 Req'd Qty: 4.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

Identify as per dwg & Stock Location: 236

0.00



Packaging

Packaging

Memo

0.00

170

QC21- Final Inspection - Work Order Release

0.00



QC

Quality Control

Memo

0.00

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, February 28, 2011 11:40:06 AM

Page 1

Work Order ID: 66829



Parent Item: D3183-043



Parent Item Name: Bracket Assembly

Start Date: 2/28/2011

Required Date: 3/4/2011

Comments: IPP Rev:Pick:A 04.02.18 New issue KJ/DS
IPP Rev:B Changed Mat Size 08-06-26 JLM Verified By:EC

Start Qty: 4.00

Required Qty: 4.00

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	66829
Description: Bracket		Part Number:	D3183-3
Inspection Dwg: D3183	Rev: C1		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

First Article Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
R0.190	+/-0.030	R.188	—		Rad-gage	
R0.063	+/-0.010	R.063	—		"	
0.182	+/-0.010	.182	—		Vern ML-7	
0.070	+/-0.010	.072	—		"	
0.100	+/-0.010	.103	—		"	
Ø0.201 x 0.100	+/-0.010	Ø199 X .092	—		"	
0.182	+/-0.010	.180	—		"	
5.32	+/-0.030	5.325	—		"	
5.036	+/-0.010	5.034	—		High gage 31006	
2.120	+/-0.010	2.120	—		Vern ML-7	
1.290	+/-0.010	1.290	—		"	
0.365	+/-0.010	.365	—		"	
0.218	+/-0.010	.212	—		"	
1.030	+/-0.010	1.030	—		"	
1.90	+/-0.030	1.888	—		"	
1.012	+/-0.010	1.006	—		"	
Ø0.201 x 0.100	+/-0.010	Ø200 X .097	—		"	
0.786	+/-0.010	.782	—		"	
Ø0.392	+0.002/-0.000	Ø.393	—		"	
R0.19	+/-0.030	R.190	—		"	
3.954	+/-0.010	3.956	—		High gage 31006	
0.162	+/-0.010	.160	—		Vern ML-7	
R0.19	+/-0.030	R.190	—		Rad-gage	
R0.25	+/-0.030	R.250	—		"	
4.26	+/-0.030	4.265	—		Vern ML-7	
2.080	+/-0.030	2.110	—		"	
1.155	+/-0.010	1.155	—		"	
0.162	+/-0.010	.162	—		"	
0.36	+/-0.030	.360	—		"	
0.615	+/-0.010	.613	—		"	
0.435	+/-0.010	.432	—		"	
0.200	+/-0.010	.200	—		"	
0.381	+/-0.010	.381	—		"	
0.032	+/-0.010	.030	—		Depth gage ML-05	

Measured by:	<i>Onk</i>	Audited by:	<i>JK</i>	Prototype Approval:	N/A
Date:	11/03/15	Date:	11/03/16	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	03.11.12	New Issue P/O D3183-043	KJ/RF	
B	04.03.15	Changes as per revision C	KJ/JLM/RF	
C	06.03.09	Dwg Rev update	KJ/JLM	
D	08.01.28	0.182 dimension removed	KJEC/DD <i>JK</i>	<i>JK</i>

W/O:		WORK ORDER CHANGES							
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

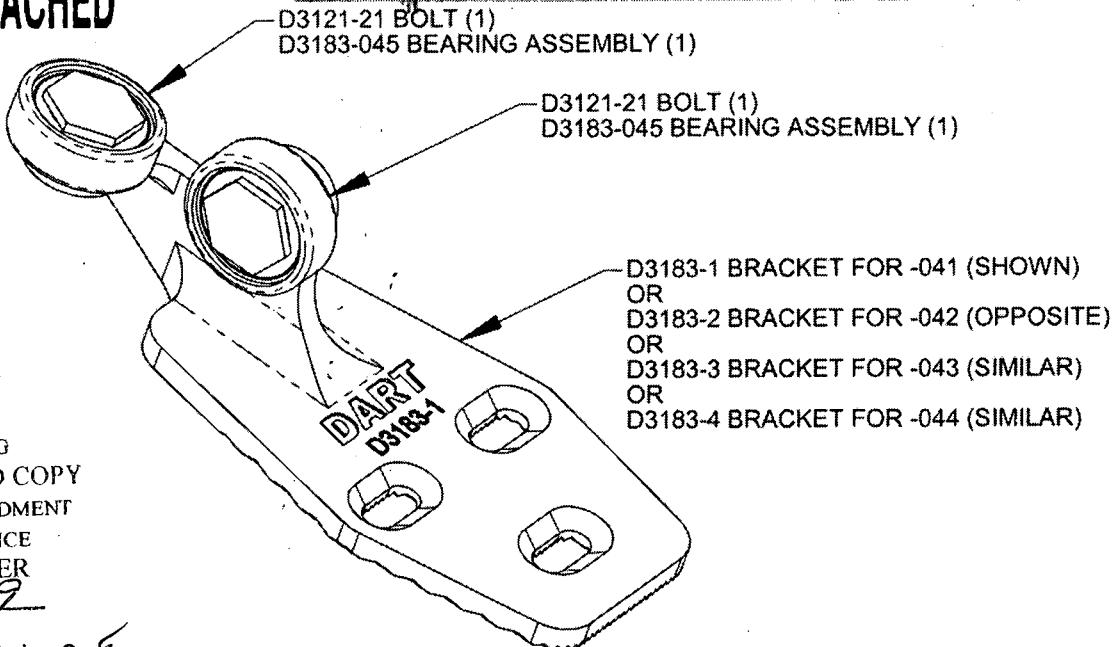


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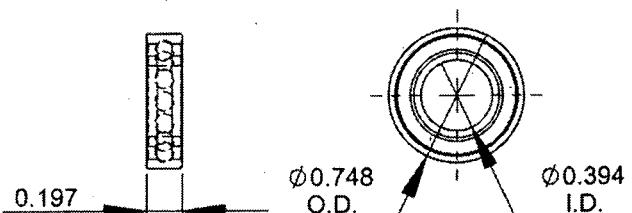
DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. C
		D3183	SHEET 1 OF 4
DATE	04.02.17	TITLE	SCALE
		BRACKET ASSEMBLY	1:1

RELEASED
04.03.01 C/P
DEO ATTACHED

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 66829
Bl 1102-28

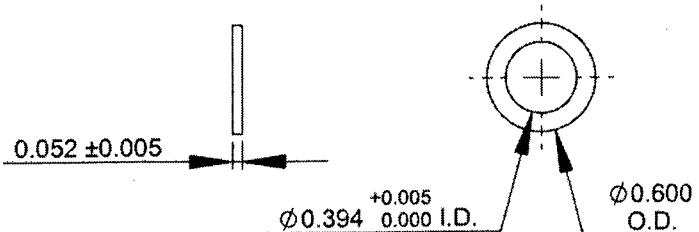


D3183-041 BRACKET ASSEMBLY (SHOWN)
D3183-042 BRACKET ASSEMBLY (OPPOSITE)
D3183-043 BRACKET ASSEMBLY (SIMILAR)
D3183-044 BRACKET ASSEMBLY (SIMILAR)



D3183-5 BEARING: SPECIFICATION CONTROL DRAWING

- 1) SINGLE ROW, DEEP GROOVE, CONRAD TYPE, SHIELDED
- 2) POSSIBLE SUPPLIER: NSK P/N 6800ZZ
- 3) ALL DIMENSIONS ARE IN INCHES



D3183-7 WASHER

- 1) MATERIAL: AISI 303 ROUND BAR (M303R) ANNEALED
- 2) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES

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W/O:		WORK ORDER CHANGES							
DATE	STEP	PROCEDURE CHANGE			By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)								
DATE	STEP	Description of NC Section A	Corrective Action			Section B		Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date					

NOTE: Date & initial all entries

DART

DA COPY IS
D3183-1

DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	DRAWING NO. D3183
DATE		TITLE BRACKET ASSEMBLY
04.02.17		SCALE 1:2

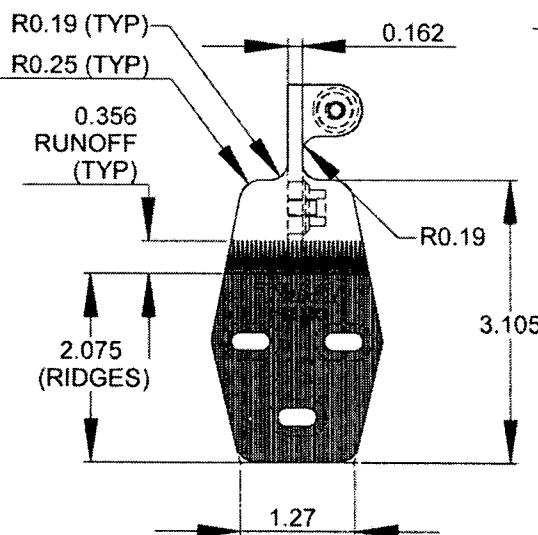
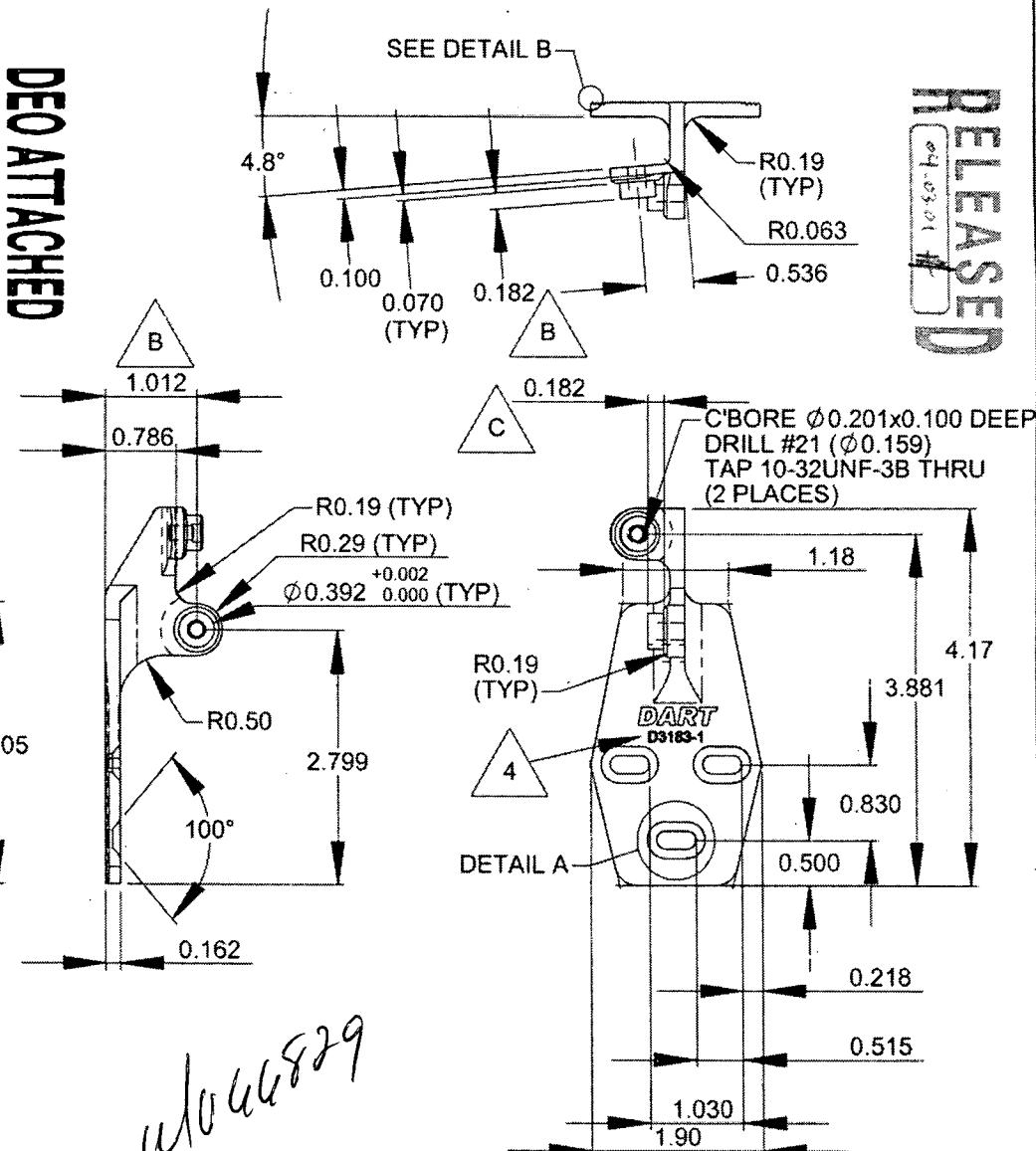
RELEASED

04.02.01

△ C

△ 4

DETAIL A



D3183-1 BRACKET SHOWN
D3183-2 BRACKET OPPOSITE

- 1) D3183-1 CAN BE MADE FROM D3183-3
D3183-2 CAN BE MADE FROM D3183-4
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE STRENGTH = 150 ksi
MIN YIELD STRENGTH = 100 ksi
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 4) ENGRAVE DART P/N & LOGO AS SHOWN
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS
OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

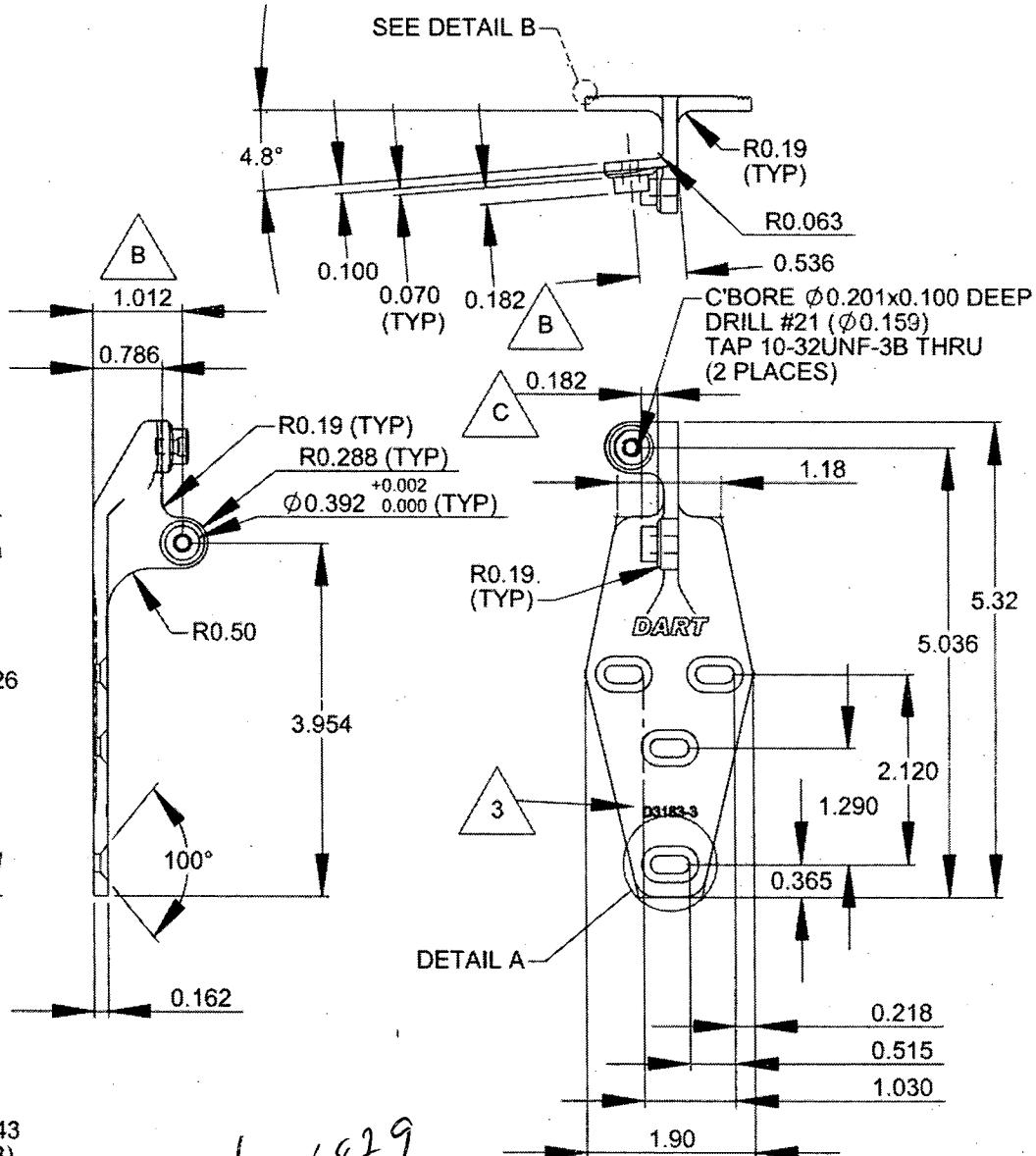
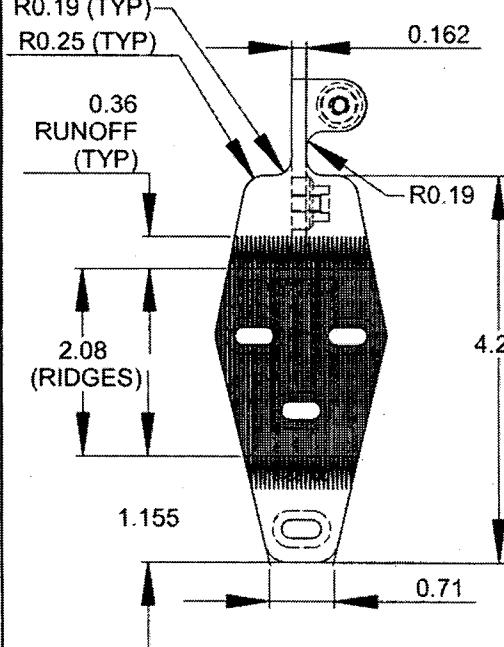
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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DESIGN	DRAWN BY	DART AEROSPACE LTD	
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA	
		DRAWING NO.	
		D3183	REV. C
DATE	04.02.17	TITLE	BRACKET ASSEMBLY
		SHEET 3 OF 4	
		SCALE	1:2

DE ATTACHED

1) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE STRENGTH = 150 ksi
MIN YIELD STRENGTH = 100 ksi

2) BREAK ALL SHARP EDGES 0.005 TO 0.015

3) ENGRAVE DART P/N & LOGO AS SHOWN

4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

5) ALL DIMENSIONS ARE IN INCHES

WU 46829

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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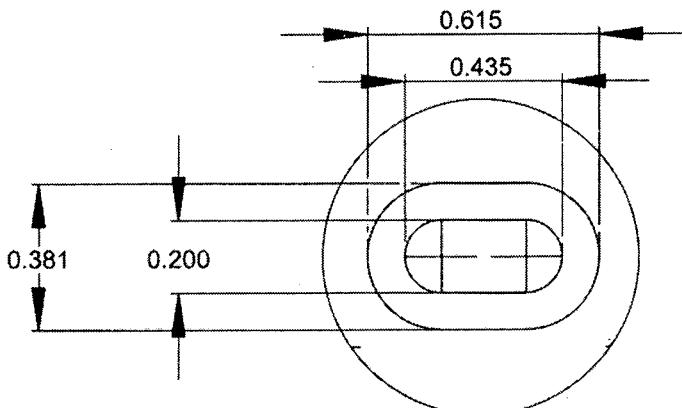
NOTE: Date & initial all entries



DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3183
DATE	04.02.17	TITLE BRACKET ASSEMBLY SCALE 1:1

REV. C

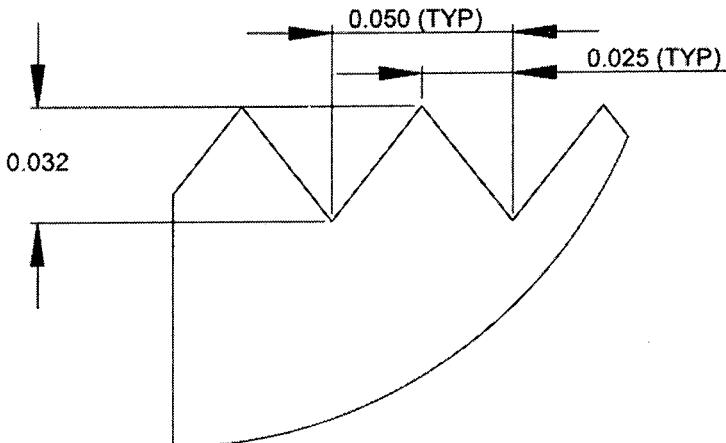
SHEET 4 OF 4



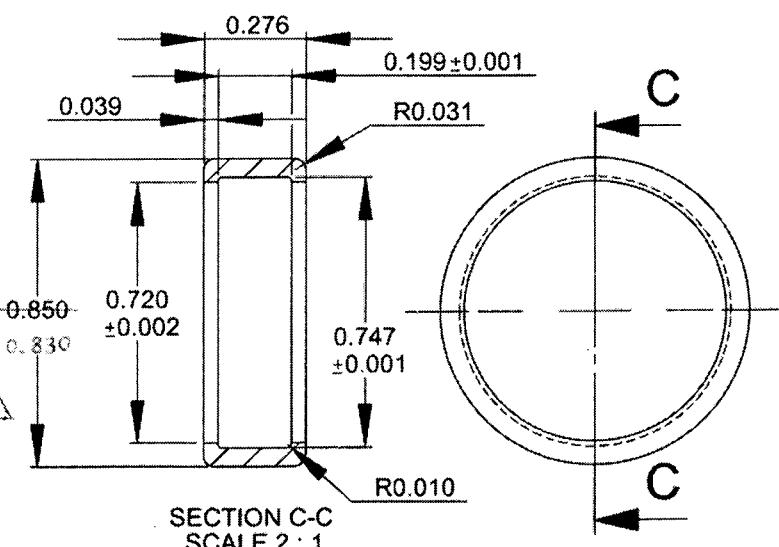
DETAIL A (2 : 1)

RELEASED
04.03.01

DEO ATTACHED



DETAIL B (20 : 1)

**D3183-9 CAP**

- 1) MATERIAL: DELRIN ROD, Ø1.00
(REF DART SPEC. M-DELRIN-R1.00)
- 2) TOLERANCES ARE PER DART QSI 018
UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

D3183-045 BEARING ASSEMBLY

- 1) ASSEMBLE D3183-5 BEARING AND
D3183-9 CAP

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

NOTE: Date & initial all entries

DRAWING NO. D3183	TITLE BRACKET ASSEMBLY	REV.C1	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO. D3183-C1-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>dp</i>	CHECKED <i>1</i>	MFG. APPR. <i>AA</i>	APPROVED <i>NP</i>	DE APPR. <i>NP</i>		
DATE 10.05.14	DATE 10.06.30	DATE 10.06.30	DATE 10/06/30	DATE 10/06/30	DATE 10/06/30	

D3183-5 BEARING

ADD POSSIBLE SUPPLIER: KML P/N 6800-ZZ

BASIC LOAD RATING REQUIREMENT: Cr = 1720 N (386 lb) MIN [DYNAMIC]
Cor = 840 N (188 lb) MIN [STATIC]

REF PAR 10-012

RELEASED
2010-07-22
NP

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
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